**Domain: Numbers and Operations Standard Code: 4.NF.3a Author Name: Melinda, Stacie, Trena, Karen**

**Title of Task: \_\_\_\_\_\_\_ Pizza Party\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Adapted from: Smith, Margaret Schwan, Victoria Bill, and Elizabeth K. Hughes. “Thinking Through a Lesson Protocol: Successfully Implementing High-Level Tasks.”

*Mathematics Teaching in the Middle School 14* (October 2008): 132-138.

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| **PART 1: SELECTING AND SETTING UP A MATHEMATICAL TASK** | |
| What are your mathematical goals for the lesson? (i.e., what do you want  students to know and understand about mathematics as a result of this lesson?) | \*Students will understand addition and subtraction of fractions as joining and separating parts referring to the same whole. |
| * What are your expectations for students as they work on and complete this task? * What resources or tools will students have to use in their work that will give them entry into, and help them reason through, the task? * How will the students work—   independently, in small groups, or in pairs—to explore this task?   * How will students record and report their work? | \*Students can show understanding in joining and separating fractions.  \*You will need: fraction pieces (circle)  paper/pencil  colored pencils  chart paper (for favorite toppings list)  \* Students will be working in small groups.    \*Students will do individual work on task sheet and present as a group. |
| How will you introduce students to the activity so as to provide access to *all*  students while maintaining the cognitive demands of the task? | \*Read the book: The Little Red Hen Makes a Pizza by Philomen Sturges  \*What kinds of toppings do you like on your pizza?  (Record the class’s favorite toppings to be used for the task.)  \*Does everyone in your family like the same kinds of toppings? |

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| **PART 2: SUPPORTING STUDENTS’ EXPLORATION OF THE TASK** | |
| As students work independently or in small groups, what questions will you ask to—   help a group get started or make progress on the task?   focus students’ thinking on the  key mathematical ideas in the task?   assess students’ understanding of  key mathematical ideas, problem- solving strategies, or the representations?   advance students’ understanding  of the mathematical ideas? | \*Draw a picture to represent each pizza.  \*What will your denominator be?  \*Ask open ended questions. |
| How will you ensure that students remain engaged in the task?   What assistance will you give or what questions will you ask a  student (or group) who becomes  quickly frustrated and requests more direction and guidance is  solving the task?   What will you do if a student (or group) finishes the task almost  immediately? How will you  extend the task so as to provide additional challenge? | \*Walk around and monitor.  \*Everyone is drawing 1/8 fraction circles on their paper or using fraction circle manipulatives.  \*Do the extension. |

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| **PART 3: SHARING AND DISCUSSING THE TASK** | |
| How will you orchestrate the class discussion so that you accomplish your mathematical goals?   Which solution paths do you want to have shared during the  class discussion? In what order will the solutions be presented? Why?   What specific questions will you ask so that students will—  1. make sense of the  mathematical ideas that you want them to learn?  2. expand on, debate, and question the solutions being shared?  3. make connections among the different strategies that are presented?  4. look for patterns?  5. begin to form generalizations?  What will you see or hear that lets you know that *all* students in the class  understand the mathematical ideas that  you intended for them to learn? | \*Each group will present their work.   * How many pizzas did you order? * How did you figure out your denominator?   \*Can you write a fraction addition sentence for each of your pizzas? |

You are having a pizza party. How many pizzas would you order to get everyone one slice of what they want? Each pizza has 8 slices. Use the fraction circles and show your work.

6 people want pepperoni

4 people want olives

5 people want ham and pineapple

2 people want just cheese

3 people want sausage and peppers

4 people want ham, sausage, olives, pepperoni, pineapple and peppers



Task Extention: How much will your pizza cost for the party?

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| # of toppings | Price per slice |
| 1 topping | $1.00 |
| 2 toppings | $3.00 |
| 3 or more toppings | $5.00 |